

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (previously amended) A dynamic balancing system for a computer tomography gantry, the gantry rotating about a gantry axis and supporting components for acquisition of tomographic data, the balancing system comprising:

at least one electronically positionable weight attached to the gantry for movement with respect to the gantry along the gantry axis according to a received position signal to correct imbalance in the gantry caused by variation in the components.

Claim 2. (original) The dynamic balancing system of claim 1 including two electronically positionable weights, each attached at spatially separated points on the gantry, each receiving an independent position signal.

Claim 3. (previously amended) The dynamic balancing system of claim 2 wherein the two electronically positionable weights are positioned along lines of radius from the gantry axis that are perpendicular to each other.

Claim 4. (original) The dynamic balancing system of claim 2 wherein each of the electronically positionable weights are movable along an independent weight axis, wherein the weight axes are perpendicular to each other.

Claim 5-6. (cancelled)

Claim 7. (previously amended) The dynamic balancing system of claim 1 wherein the electronically positionable weight is movable along two weight axes having components of motion parallel to the gantry axis and radial to the gantry axis, respectively, each receiving an independent position signal.

Claim 8-14. (cancelled)

Claim 15. (original) The dynamic balancing system of claim 1 further including at least one gantry sensor detecting out of balance operation of the gantry and providing a signal to the electronically positionable weight so as to dynamically correct the imbalance.

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Claim 16. (original) The dynamic balancing system of claim 1 wherein the electronically positionable weights include attachment points for fixed weights augmenting the electronically positionable weight.

Claim 17. (previously amended) A method of balancing a computer tomography gantry, the gantry providing a gantry ring rotating about a gantry axis and supporting components for acquisition of tomographic data and including at least one electronically positionable weight attached to the gantry for movement with respect to the gantry along the gantry axis and including at least one gantry sensor detecting out of balance operation of the gantry, the method comprising the steps of:

- (a) rotating the gantry;
- (b) measuring the balance of the gantry during rotation; and
- (c) moving the electronically positionable weights so as to reduce the imbalance.

Claim 18. (previously amended) The method of claim 17 wherein the gantry is rotated at a predetermined speed used during the acquisition of computed tomography data.

Claim 19. (previously amended) The method of claim 17 wherein the step of measuring the balance of the gantry measures a parameter selected from the group consisting of: variation in-plane forces on the gantry, variations in out-of-plane forces on the gantry, and variations in acceleration of the gantry, and variation in force required to move the gantry.

Claim 20. (new) A dynamic balancing system for a computer tomography gantry, the gantry rotating about a gantry axis and supporting components for acquisition of tomographic data, the balancing system comprising:

at least one electronically positionable weight attached to the gantry for movement with respect to the gantry along two axes according to two received position signals to correct imbalance in the gantry caused by variation in the components.

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Claim 21. (new) The dynamic balancing system of claim 20 including two electronically positionable weights, each attached at spatially separated points on the gantry, each receiving an independent position signal.

Claim 22. (new) The dynamic balancing system of claim 21 wherein the two electronically positionable weights are positioned along lines of radius from the gantry axis that are perpendicular to each other.

Claim 23. (new) The dynamic balancing system of claim 20 wherein each of the electronically positionable weights are movable along an independent weight axis, wherein the weight axes are perpendicular to each other.
